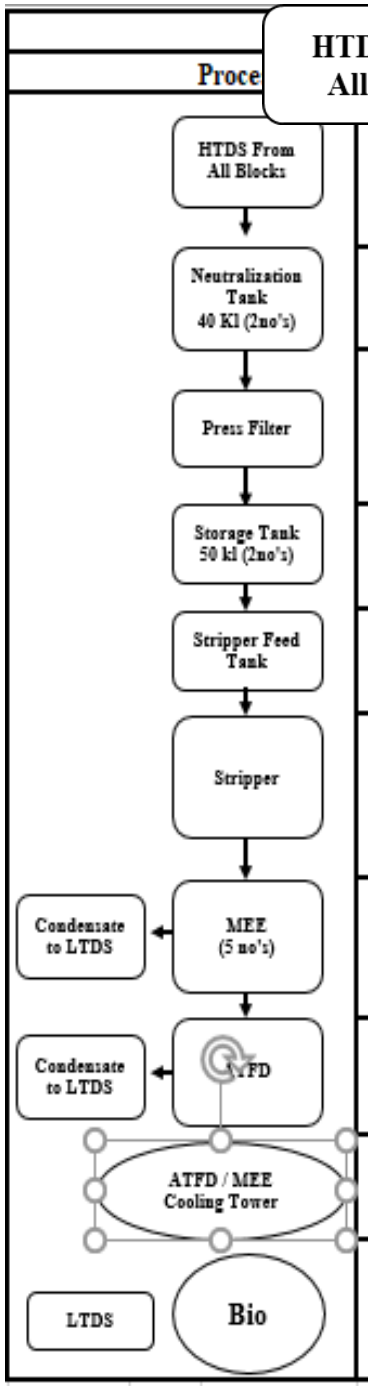
Sr. no	Description	Action plan	P&ID attachment
1	Trifluoroacetic anhydride Charging	Provided new acid-resistant fume chamber has been installed for pumping TFAA using an AODD pump, with the top outlet seamlessly connected to the scrubber system for efficient fume management.	A-block TFAA P&ID
2	Centrifugation	Centrifuges are connected to the scrubber system via a "reverse umbrella" setup to ensure fumes capture & control.	F-Block CFG system
3	Ethyl acetate distillation setup	A secondary condenser with chilled brine utilities has been installed on the A/SSR/11 reactor to reduce distillation cycle time effectively.	A- Block EA Distillation setup
4	Centrifugation Ml's Transferring	Provided AODD pump for Ml's transferring instead of Centrifugal pump or vacuum system	Centrifugation rasferring syster
5	Scrubber Connection for drier	Provided Scrubber connection system for Drying block for selective drier	crubber system for G-Block drier
6	Ethyl HCl Charging	provided new acid-resistant fume chamber has been installed for pumping E.A HCl using an AODD pump, with the top outlet seamlessly connected to the scrubber system for efficient fume management.	.A HCL Charging System
7	HBr Distillation setup with steam controller	Provided Steam controller valve for heating, Maintenance & Secondary graphite condenser for effective distillate collection	HBr distillation steam controlle
8	HBr reaction reverse quenching system	Provided reverse quenching system for reducing quenching duration	HBr Rxn Reverse uenching syster
9	Ethyl acetate Sub-cooler system	Proposal for Sub-cooler for the distillate to eliminate the vapor loss.	EA distillatin ubcooler system
10	Water ring Vacuum pump with intercooler setup in D block	Provided water ring vacuum system with in-house inter-cooler setup.	Water ring uum pump syst

MSNO ETP



Proce	ell	Sr.no	Action Plan	Requirements
HTDS From All Blocks	✗	1 2	Line segregation from each reactor for HTDS & LTDS need to be connected to 50 KL tank 2 no's each Segregate the HTDS & LTDS tanks for each block with auto-pumping system.	MS 50KL 2no's Tanks
Neutralization Tank 40 Kl (2no's)	✗	3	For Effective uniform mixing through out the Neutralization tanks	2 no's Blower (1 no's Running & another Standby) Currently under repair
Press Filter	✓	4 5	Proposing new Clarifier to Eliminate the cleaning time duration at the press filer Press filter Feed pump Frequent seal damage controlling	Current Press filter Not under utilization as per team dissusion New Clarifier ~2-2.5 kl/hr
Storage Tank 50 kl (2no's)	✓	6	Temporary action, proposing to Close the top open lid & Connect with the Scrubber vent line	
Stripper Feed Tank	✓	7	Proposing to Close the top open lid & Connect with the Scrubber vent line	
Stripper	✗	8 9 10 11	Reflux automation with bottom temperature Top collection need to collect into the storage tank To Control the Vapor loss For Distillate & Reflux Collection line	Top Temperature refulx to auto control, control valve avaible at site Low boils Collection vessel MS 10 KL Vent Condenser & Sub Cooler Flow meters 2No's
MEE (5 no's)	✗	12 13	Vapor & Liquid Separator RTD sensor need to be Rectified. Each MEE Condensate pot Auto-pumping setup to stripper feed tank	Auto-pumping Setup TDS<1000 mointering
ATFD	✓	14	ATFD bottom solid should be ensured without any vapours with effective scrubbing	
ATFD / MEE Cooling Tower	✓	15	New Cooling Shall be planned to Ground Floor	
LTDS / Bio	✓	16 17	Surface arestors one of blower not working Diffusor type aerators shall be recommended	

LTDS process flow